88888888888888888888888888888888888888	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	\$	RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR		
				TTT	
8888888888888 8888888888888 8888888888	AAA AAA	\$	RRR RRR RRR RRR RRR RRR	††† ††† †††	

BBBBBBBB BB BB BB BB BB BB BB BB BB BB BBBBBB	AAAAAA AA AA AA AA AA AA AA AA AA AA AAAAAA	\$	22222222 22 22 22 22 22 22 22 22 22 22	VV		TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP
		\$					

VAX-11 Bliss-32 V4.0-742 [BASRTL.SRC]BASCVTTP.B32:1

! convert numeric text to packed decimal ! File: BASCVTTP.B32 Edit: MDL1010 IDENT = '1-010'

BEGIN

.

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FACILITY: BASIC Language Support

ABSTRACT:

This routine converts numeric text to packed decimal.

ENVIRONMENT: Runs at any access mode - AST reentrant

AUTHOR: Pamela L. Levesque, CREATION DATE: 29-Dec-1981

MODIFIED BY:

1-001 - Original. PLL 29-Dec-1981
1-002 - Declare BAS\$ Psects. PLL 11-feb-1982
1-003 - Incorporate changes based on code review. PLL 11-feb-1982
1-004 - Fix bug in calculation of integer and fraction digits. PLL 12-feb-1982
1-005 - If the input string is all blanks, return 1 integer zero and the appropriate number of fractional zeroes.

Also incorporated DGP's suggestions. PLL 17-feb-1982
1-006 - Fix a bug in the all blanks case. PLL 29-Mar-1982
1-007 - Look at a flag in the frame to determine rounding or truncating.
PLL 10-Jun-1982
1-008 - Remove edit 007 - it's the caller's responsibility to check the flag in the frame and pass it as an argument if necessary. PLL 30-Jun-1982
1-009 - when skip tabs flag is set, the spanc mask should be set to

1-009 - when skip tabs flag is set, the spanc mask should be set to skip blanks OR skip tabs, not skip blanks AND skip tabs. MDL 30-Jun-1983

16 18 

```
BAS$CVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11 Declarations 14-Sep-1984 11:54:49
BAS$CVT_T_P
                                                                                                       VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.832;1
                            %SBTTL 'Declarations'
   SWITCHES:
                            SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
                            ! LINKAGES:
                           LINKAGE
JSB_R7 = JSB (REGISTER = 4, REGISTER = 5, REGISTER = 6, REGISTER = 7) :
PRESERVE (8, 9, 10, 11);
                              TABLE OF CONTENTS:
                            FORWARD ROUTINE
BASSCVT_T_P;
                                                                                    ! convert from text to packed
                              INCLUDE FILES:
                            LIBRARY 'RTLSTARLE';
                                                                                    ! System symbols
                            REQUIRE 'RTLIN:RTLPSECT';
                                                                                    ! Define PSECT declarations macros
                              MACROS:
                                 ADDP = LIB$$ADDP_R7 %;
                              EQUATED SYMBOLS:
                                     NONE
                              FIELDS:
                                     NONE
                              PSECTS:
                            DECLARE_PSECTS (BAS);
                              OWN STORAGE:
                                     NONE
                              EXTERNAL REFERENCES:
```

BASSCVT\_T\_P BASSCVT\_T\_P - convert numeric text to packed de 16-Sep-1984 00:17:11 VAX-11 Bliss-32 V4.0-742 14-Sep-1984 11:54:49 [BASRTL.SRC]BASCVTTP.B32;1

119 0212 1 EXTERNAL ROUTINE 121 0214 1 LIBSSADDP\_R7: JSB\_R7: 0215 1 0216 1

Page (2)

```
BASSCVT_T_P
                       BASSCVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BASSCVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
                                                                                                                              VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32:1
                                  convert numeric text to packed decimal
                                                                                                          text descriptor
                                                                                                          packed descriptor user flags
                                     FUNCTIONAL DESCRIPTION:
                                             Converts a text string representing a numeric value to a packed decimal value. Description of the text is as follows:

<0 or more spaces, nulls, or tabs>
                                                         <0 or more digits>
<"." or nothing>
                                                         <0 or more digits>
                                                         <0 or more spaces, nulls, or tabs>
                                                         <end of string>
                                              Setting the strip spaces bit in FLAGS causes embedded spaces to be ignored.
                                              Otherwise blanks are an error.
                                              Setting the skip tabs bit in FLAGS causes embedded tab characters to be ignored.
                                              Otherwise they are an error.
                                             The value will be rounded, if necessary, to fit into the number of digits specified by the packed decimal descriptor. Truncation may be requested by setting the don't round bit in FLAGS.
                                              Note that this routine expects the length and scale fields in the
                                             packed decimal descriptor to be set by the caller.
                                     CALLING SEQUENCE:
                                              ret_status.wlc.v = BAS$CVT_T_P (TEXT_DSC.rt.dx1, PACKED_DSC.wp.dsd, FLAGS.rl.v)
                                     FORMAL PARAMETERS:
                                                                                address of the input text descriptor address of the output decimal descriptor value of caller's flags bit 0 set indicates skip blanks bit 3 set indicates don't round value bit 4 set indicates skip tabs
                                             TEXT_DSC
PACKED_DSC
[FLAGS]
                                     IMPLICIT INPUTS:
                                              NONE
                                     IMPLICIT OUTPUTS:
                                              NONE
                                     ROUTINE VALUE:
```

```
BAS$CVT_T_P
                                                      BASSCVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11 BASSCVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
                                                                                                                                                                                                                                                                                                         VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32:1
                                                                                                                                                                                                                                                                                                                                                                                                                                  Page
                                                                                                                                                                 text successfully converted to decimal numeric text could not be converted to the specified decimal descriptor
                                                                                                             success
failure
        SIDE EFFECTS:
                                                                                                            NONE
                                                                                              BEGIN
                                                                                 MAP
                                                                                              TEXT_DSC : REF BLOCK [8,BYTE], PACKED_DSC : REF BLOCK [12,BYTE];
                                                                               BUILTIN ACTUAL COUNT,
                                                                                              CVTSP,
SPANC;
                                                     K_FLAGS_ARG = 3,
K_PACKED_ONE = %x'0000001C',
K_PACKED_NEG_ONE = %x'0000001D',
K_MAX_DIGITS = 31,
CHAR_TAB = %x'09': UNSIGNED (8),
CHAR_SPACE = %x'20': UNSIGNED (8),
CHAR_NULL = %x'00': UNSIGNED (8),
CHAR_ZERO = %x'30': UNSIGNED (8),
CHAR_TWO = %x'31': UNSIGNED (8),
CHAR_THO = %x'31': UNSIGNED (8),
CHAR_THREE = %x'33': UNSIGNED (8),
CHAR_FOUR = %x'34': UNSIGNED (8),
CHAR_FIVE = %x'35': UNSIGNED (8),
CHAR_SIX = %x'36': UNSIGNED (8),
CHAR_SEVEN = %x'35': UNSIGNED (8),
CHAR_SEVEN = %x'36': UNSIGNED (8),
CHAR_EIGHT = %x'38': UNSIGNED (8),
CHAR_NINE = %x'39': UNSIGNED (8),
CHAR_NINE = %x'39': UNSIGNED (8),
MASK_NUMERIC = 1: UNSIGNED (8),
MASK_NUMERIC = 1: UNSIGNED (8),
MASK_BLANKS = 2: UNSIGNED (8),
V_SKIP_TABS = 1^4,
V_SKIP_BLANKS = 1^0,
V_DONT_ROUND = 1^3;
                                                                               BIND
                                                                                              SPANC_TABLE = UPLIT BYTE
                                                                                                                                      REP CHAR NULL OF (0), (MASK BLANKS),
                                                                                                                                      REP CHAR TAB - CHAR NULL - 1 OF (0),
                                                                                                                                       (MASK TAB)
                                                                                                                                     REP CHAR_SPACE - CHAR_TAB - 1 OF (0),
(MASK_BLANKS),
REP CHAR_ZERO - CHAR_SPACE - 1 OF (0),
```

```
BAS$CVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BAS$CVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
BAS$CVT_T_P
                                                                                                                                                                                                                                                                                           VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32:1
                                                                                                                                (MASK_NUMERIC),
REP_CHAR_ONE - CHAR_ZERO - 1 OF (0),
(MASK_NUMERIC),
         (MASK NUMERIC),
REP CHAR TWO - CHAR_ONE - 1 OF (0),
(MASK NUMERIC),
REP CHAR THREE - CHAR_TWO - 1 OF (0),
(MASK NUMERIC),
REP CHAR FOUR - CHAR_THREE - 1 OF (0),
(MASK NUMERIC),
REP CHAR FIVE - CHAR_FOUR - 1 OF (0),
(MASK NUMERIC),
REP CHAR SIX - CHAR_FIVE - 1 OF (0),
(MASK NUMERIC),
REP CHAR SEVEN - CHAR_SIX - 1 OF (0),
(MASK NUMERIC),
REP CHAR SEVEN - CHAR_SEVEN - 1 OF (0),
(MASK NUMERIC),
REP CHAR EIGHT - CHAR_SEVEN - 1 OF (0),
(MASK NUMERIC),
REP CHAR NINE - CHAR_EIGHT - 1 OF (0),
(MASK NUMERIC),
REP CHAR NINE - CHAR_EIGHT - 1 OF (0),
(MASK NUMERIC),
REP CHAR NINE - CHAR_EIGHT - 1 OF (0),
(MASK NUMERIC),
REP CHAR NINE - CHAR_EIGHT - 1 OF (0),
(MASK NUMERIC),
REP CHAR NINE - CHAR_EIGHT - 1 OF (0),
(MASK NUMERIC),
REP 255 - CHAR_NINE OF (0)
): VECTOR [256, BYTE, UNSIGNED];
                                                                            LOCAL
                                                                                          USER_FLAGS,
TEMP_LENGTH : INITIAL (1),
                                                                                                                                                                                                                    flags from caller or 0
                                                                                                                                                                                                                    length of temp. text (init to 1 for sign length)
                                                                                                                                                                                                                 (init to 1 for sign length)
temp. area for input text

# int. digits in a segment
of the input string
# int. digits in input
# fract. digits in a segment
of the input string
# fract. digits in input
temp. variable
ptr. into input text string
digit to round on
temp. mask for SPANC
ptr. to 1st char in input str
                                                                                          TEXT BUF : VECTOR [32, BYTE], INT_DIGITS,
                                                                                          TOTAL INT DIGITS : INITIAL (0), ACTUAL_SCALE : INITIAL (0),
                                                                                           TOTAL_FRAC_DIGITS : INITIAL (0),
                                                                                          DIFF,
CURRENT PTR,
ROUND_DIGIT : INITIAL (0),
                                                                                          START PTR,
DEC_PT_LOC : INITIAL (0),
END_TXT_PTR;
                                                                                                                                                                                                              ptr. to 1st char in input string
ptr. to dec. pt. in input string
ptr. to end of input string
                                                                                          CURRENT_PTR : REF VECTOR [.BYTE];
                                                                                  The overall strategy is to construct an acceptable numeric string for CVTSP in a temporary area, TEXT_BUF. "Acceptable" means no embedded spaces, tabs, or decimal point, and less than or equal to 31 digits. This routine should detect any invalid strings which would cause a reserved operand from CVTSP.
                                                                                           IF ACTUALCOUNT () LSS K_FLAGS_ARG
                                                                                                       USER_FLAGS = 0
                                                                                                       USER_FLAGS = .FLAGS;
                                                                                                                                                                                                              ! store caller's flags, if any
```

```
BASSCVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BASSCVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
BASSCVT_T_P
                                                                                                             VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32:1
                                   END_TXT_PTR = .TEXT_DSC [DSC$A_POINTER] + .TEXT_DSC [DSC$W_LENGTH];
    Skip leading spaces. Skip leading tabs only if bit in flag is set.
                                   IF (.USER_FLAGS AND V_SKIP_TABS) NEQ O
                                        MASK = MASK_BLANKS OR MASK_TAB
                                   ELSE
                                  MASK = MASK_BLANKS;

CURRENT_PTR = SPANC (TEXT_DSC [DSC$W_LENGTH], .TEXT_DSC [DSC$A_POINTER],

SPANC_TABLE, MASK);
                    Always insert a sign into the temporary area so that we know a sign
                              ! is always included in TEMP_LENGTH.
                                      CURRENT PTR NEQ 0 AND

(.CURRENT PTR [0] EQL %C'+' OR

.CURRENT PTR [0] EQL %C'-')
                                   THEN
                                        BEGIN
TEXT_BUF [0] = .CURRENT PTR [0]:
                                        CURRENT_PTR = .CURRENT_PTR + 1;
                                   ELSE
                                        TEXT_BUF [0] = %C'+';
                                   START_PTR = .CURRENT_PTR;
                                                                                         ! start = 1st possible digit
                                Search for integer digits. Embedded tabs and spaces may be ignored, depending
                                on USER_FLAGS.
                                   WHILE 1 DO
BEGIN
                                Wait until here to check for all blanks in the input string.
                                A zero string must contain the proper number of fractional digits,
                                so it's easiest to let zeroes be handled the same as non-zeroes.
                                   IF .CURRENT_PTR EQL O
                                       BEGIN
TOTAL INT DIGITS = 1;
TEXT BUF [1] = XC'O';
TEMP_LENGTH = .TEMP_LENGTH + 1;
                                        EXITEOOP
                                        END;
```

```
BASSCVT_T_P
1-010
                       BASSCVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BASSCVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
                                                                                                                               VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32:1
    CURRENT_PTR = SPANC (%REF (.END TXT PTR - .START PTR),
.CURRENT_PTR, SPANC_TABLE, %REF (MASK_NUMERIC));
                       Store any digits found.
                                        INT_DIGITS = (IF .CURRENT PTR NEQ 0
THEN .CURRENT PTR - .START PTR
ELSE .END_TXT_PTR - .START_PTR);
                                                                                                         ! calc # integer digits
                                             .INT_DIGITS GTR O
                                         THEN
                                              CHSMOVE (.INT_DIGITS, .START_PTR, TEXT_BUF + .TEMP_LENGTH);
                                                                                                          copy int. digits to temp area
                                              TEMP LENGTH = .TEMP_LENGTH + .INT_DIGITS:
TOTAL INT_DIGITS = .TOTAL INT_DIGITS + .INT_DIGITS:
                                             .CURRENT_PTR NEQ 0
                                         THEN
                                              BEGIN
                                     Have found a non-digit. It could be a decimal point or embedded blanks, etc.
                                              SELECTONE .CURRENT_PTR [0] OF
                                                    SET
                                                          EXC'.']:
BEGIN
                                                               DEC_PT_LOC = .CURRENT_PTR: ! save location of dec pt
CURRENT_PTR = .CURRENT_PTR + 1;
                                                                EXITLOOP
                                                          END:
[CHAR_SPACE, CHAR_NULL]:
                                                               BEGIN
                                                                IF (.USER_FLAGS AND V_SKIP_BLANKS) NEQ O
                                                                THEN
                                                                     BEGIN
                                                                     CURRENT_PTR = SPANC (%REF (.END_TXT_PTR - .START_PTR),
.CURRENT_PTR, SPANC_TABLE,
%REF (MASK_BLANKS));
IF .CURRENT_PTR EQL O THEN EXITLOOP;
START_PTR = .CURRENT_PTR;
                                                                     END
                                                               ELSE
                                                                     RETURN 0:
                                                                                                        ! <should be zeroes here>
                                                          END:
[CHAR_TAB]:
                                                               BEGIN
                                                                IF (.USER_FLAGS AND V_SKIP_TABS) NEQ O
                                                                THEN
                                                                     BEGIN
                                                                     CURRENT_PTR = SPANC (*REF (.END TXT PTR - .START_PTR),
.CURRENT_PTR, SPANC_TABLE,
                       0500
0501
    408
                                                                                             TREF (MASK_TAB));
```

```
- convert numeric text to packed de 16-Sep-1984 00:17:11 - convert numeric text to packed de 14-Sep-1984 11:54:49
BASSCVT_T_P
                                                                                                                          VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32;1
                                                                 IF .CURRENT_PTR EQL O THEN EXITLOOP;
START_PTR = .CURRENT_PTR;
END
   ELSE
                                                                  RETURN 0:
                                                       END:

COTHERWISEJ:

RETURN 0:
                                                                                                   ! no other chars valid here
                                                 TES:
                                            END
                                      ELSE
                                 ! Only digits found. Purely integer number.
                                            EXITLOOP:
                                      END:
                                                                                                   ! end of WHILE Loop
                                   Return an error if the number of integer digits exceeds what the destination
                                   descriptor specifies.
                                      IF .TOTAL_INT_DIGITS GTR (.PACKED_DSC [DSC$W_LENGTH] + .PACKED_DSC [DSC$B_SCALE])
                                      THEN RETURN 0:
                                   Search for fractional digits if a decimal point was found and we are not
                                   at the end of the string.
                                      IF .DEC_PT_LOC NEQ O AND .CURRENT_PTR NEQ O AND .CURRENT_PTR LSS .END_TXT_PTR
                                      THEN
                                            BEGIN
                                            START_PTR = .DEC_PT_LOC + 1;
                                            WHILE 1 DO
                                            BEGIN
                                            CURRENT_PTR = SPANC (*REF (.END TXT_PTR - .START_PTR),
.CURRENT_PTR, SPANC_TABLE, **REF (MASK_NUMERIC));
                                   Copy any digits found into temp. area.
                                           ACTUAL_SCALE = (IF .CURRENT_PTR NEQ 0
THEN .CURRENT_PTR - .START_PTR);
ELSE .END_TXT_PTR - .START_PTR);
! calc # of fract digits
                                            IF .ACTUAL_SCALE NEQ OTHEN
                                                 BEGIN
```

```
B 11
BAS$CVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BAS$CVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
BAS$CVT_T_P
                                                                                                                                         VAX-11 Bliss-32 V4.0-742 [BASRTL.SRC]BASCVTTP.B32;1
                         0559
0560
0561
0563
0564
0566
0566
0567
0576
0577
0577
0577
0578
    468
469
471
473
473
476
478
481
483
                                                        CH$MOVE (.ACTUAL_SCALE, .START_PTR, TEXT_BUF + .TEMP_LENGTH);
                                                                                                                 ! copy fract to temp area SCALE;
                                                        TEMP_LENGTH = .TEMP_LENGTH + .ACTUAL_SCALE;
TOTAL_FRAC_DIGITS = .TOTAL_FRAC_DIGITS + .ACTUAL_SCALE;
                                                        END:
                                                  IF .CURRENT_PTR NEQ O AND .CURRENT_PTR LSS .END_TXT_PTR
                                                                                                                ! at end of string?
                                                  THEN
                                                        BEGIN
                                        Have found a non-digit. It may be an embedded blank or tab, or trailing
                                        blank or tab.
                                                        SELECTONE . CURRENT_PTR [0] OF
    484
485
486
487
488
490
491
492
493
                                                              [CHAR_SPACE, CHAR_NULL]:
                                                                    BEGIN
                                                                     IF (.USER_FLAGS AND V_SKIP_BLANKS) NEQ O
                                                                     THEN
                         0580
                         0581
                                                                           CURRENT_PTR = SPANC (%REF (.END_TXT_PTR - .START_PTR),
                                                                           CURRENT PTR, SPANC TABLE, TREF (MASK BLANKS));

IF .CURRENT PTR EQL O THEN EXITLOOP;
                         0583
                         0584
                        0585
0586
0587
0588
0589
                                                                           START_PTR = .CURRENT_PTR;
    494
                                                                           END
                                                                    ELSE
    496
                                                                           RETURN 0:
                                                                                                                             ! ret an error
                                                                    END:
                        0590
0591
0592
0593
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0595
0596
0597
0602
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0605
0606
0607
0608
0611
0613
0614
0615
    498
                                                              [CHAR TAB]:
                                                                    BEGIN
IF (.USER_FLAGS AND V_SKIP_TABS) NEQ 0
     499
    500
501
    502
503
504
505
506
507
                                                                           CURRENT_PTR = SPANC (%REF (.END_TXT_PTR - .START_PTR),
.CURRENT_PTR, SPANC_TABLE,
                                                                                                    TREF (MASK_TAB));
                                                                           IF . CURRENT PTR EQL O THEN EXITLOOP;
                                                                           START_PTR = .CURRENT_PTR;
    508
509
510
                                                                           END
                                                                    ELSE
                                                                           RETURN 0;
    511
512
513
                                                                    END:
                                                              [OTHERWISE]:
                                                                    RETURN 0;
                                                                                                                ! invalid character
    514
515
                                                        TES:
    516
517
                                                        END
    518
519
                                                  ELSE
    520
521
522
523
                                        fraction digits were the rest of the string.
                                                        EXITLOOP:
```

(3)

```
BAS$CVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BAS$CVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
BAS$CVT_T_P
                                                                                                                                                                                                                                                                  VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.832;1
                                                                                                                                                                                                                    ! End of 'WHILE' Loop
                                                                                              END:
       END:
                                                                                                                                                                                                                    ! end of fract. digit search
                                                                            Does the input text use all the fractional digits allowed by the decimal
                                                                            descriptor?
                                                                                  DIFF = (-.PACKED_DSC [DSC$B_SCALE]) - .TOTAL_FRAC_DIGITS;
IF .DIFF GTR 0
                                              0626
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                                                                                  THEN
                                                                                             BEGIN
                                                                       ! Fewer fractional digits than allowed. Pad with zeroes.
                                                                                              CH$COPY (.TEMP_LENGTH, TEXT_BUF, %C'O', .TEMP_LENGTH + .DIFF, TEXT_BUF);
                                                                                              TEMP_LENGTH = .TEMP_LENGTH + .DIFF;
                                                                                 ELSE IF .DIFF LSS O THEN
                                                                                                         BEGIN
                                                                           Too many fractional digits. Save the first digit past the allowed number of fractional digits for rounding. The value will be truncated if the user set dont_round in USER_FLAGS, or if the digit to round on is less than five.
                                                                            Note that if the caller passed an input string longer than 31 digits, the
                                                                            32nd digit is saved for rounding purposes. (It is lost after the CVTSP
                                                                           instruction.)
                                                                                                                     LOCAL INDEX;
                                                                                                                     INDEX = 1
                                                                                                                                                                                                                    ! for sign
                                                                                                                                                   .TOTAL_INT_DIGITS
                                                                                                                                                                                                                        start counting from 0
                                                                                                                     ROUND_DIGIT = .TEXT_BUF [.INDEX];
                                                                                                                                                                                                                         save digit to round on
                                                                                                                     TEMP_LENGTH = .TEMP_LENGTH + .DIFF;
                                                                                                                                                                                                                         subtr extra fract digits
                                                                                                                                                                                                                         from text string
                                                                                                         END:
                                                                            Copy the text to the destination descriptor and convert to packed at the
                                                                            same time.
                                                                                  TEMP_LENGTH = MIN (.TEMP_LENGTH - 1, K_MAX_DIGITS);
                                                                                                                                                                                                                         not more than 31 digits and
                                                                                                                                                                                                                         don't count sign
                                                                                  CVTSP (TEMP_LENGTH, TEXT_BUF, PACKED_DSC [DSC$W_LENGTH],
                                                                                                 .PACKED_DSC [DSC$A_POINTER]);
```

```
BASSCVT_T_P - convert numeric text to packed de 16-Sep-1984 00:17:11
BASSCVT_T_P - convert numeric text to packed de 14-Sep-1984 11:54:49
BAS$CVT_T_P
                                                                                                                           VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCVTTP.B32;1
                                                                                                                                                                                     (3)
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   see if we need to round this number. the number will be rounded if the user did a SET ROUND and there is a rounding digit >= 5.
                                       IF (.USER_FLAGS AND V_DONT_ROUND) EQL 0 AND .ROUND_DIGIT GEQ %C'5'
                                       THEN
                                             BEGIN
                                             LOCAL
                                             IF .TEXT_BUF [O] EQL %C'-'
                                             THEN
                                                  ONE = K_PACKED_NEG_ONE
                                             ELSE
                                                  ONE = K_PACKED_ONE;
                                    add one to the last significant digit in the number to cause
                                    the rounding effect.
                                             IF NOT ADDP (1, ONE, .PACKED_DSC [DSC$W_LENGTH], .PACKED_DSC [DSC$A_POINTER])
                                             THEN RETURN 0:
                                             END:
                                       RETURN 1;
                                       END:
                                                                                                     ! End of routine BAS$CVT_T_P
                                                                                                        .TITLE BASSCVT_T_P BASSCVT_T_P - convert numeric text to packed de
                                                                                                        .IDENT \1-010\
                                                                                                        .PSECT
                                                                                                                  _BAS$CODE,NOWRT, SHR, PIC.2
                                                                                    00000 P.AAA:
                                                                                                        BYTE
                                                                                                                   [8]0
                                                                                    00009
                                                                                                        BYTE
                                                                                    0000A
                                                                                                                   0[22]
                                                                                                        .BYTE
                                                                                                                   0[15]
                                                                                    00039
0003A
                                                                                                                   0[198]
                                                                                            SPANC_TABLE= P.AAA
.EXTRN LIB$$ADDP_R7
```

OFFC 00000

.ENTRY BASSCVT\_T\_P, Save R2,R3,R4,R5,R6,R7,R8,R9,-; 0218

BAS\$CVT_T_P 1-010	BASSCVT_	T_P -	convert	numeric numeric	text	to pa	cke	d de 1 d de 1	E 11 6-Sep-1984 4-Sep-1984	00:17: 11:54:	:11 VAX-11 Bliss-32 V4.0-742 :49 [BASRTL.SRC]BASCVTTP.B32;1	Page (
				5E 56	ВС	AE 01	9E	00002	M	OVAB	R10,R11 -68(SP), SP #1, TEMP_LENGTH	. 020
				70	10 08 04	AE	7C	00002 00006 00009 0000C 0000F	Č	OVL LRQ LRQ	ACTUAL SCALE	028
				03	04	AE AE 6C 04	9E 7C 7C 04	0000F	Č	LRL MPB GEQU	ACTUAL STALE ROUND DIGIT DEC PT LOC (AP), 73	038
				03		04	1E	00012	B	GEQU	USER_FLAGS	038
				6F	00	04	11	00017 00019 0001B	В	RB OVL	25	
				6E 50 57 57	0¢	AC 60	DO C D 1 1 0 0 1 1	0001F	25: M	OVL	FLAGS, USER_FLAGS TEXT_DSC, RU (RO) END_TXT_PTR 4(RO), END_TXT_PTR 28(SP)	038 038
				57	10	AO	CÓ	0001F 00023 00026 0002A 0002D	Ä	OVZWL DDL2 LRL	4(RO), END_TXT_PTR	039
		80		6E	10	04 AF	E1	0002D	B	BC NCL	#4. USER_FLAGS, 3\$	. 03
				52	,,,	06	DO	00031 00034 00037	M	OVL	#4. USER_FLAGS, 3\$ 28(SP) #6, MASK 4\$	039
52	FEBD	CF	04	52 B0		604CC00AE4E632002111	00 2B 12	00039 00030 00044 00046	35: M	OVL PANC NEG LRL OVL	#2 MASK (RO), 24(RO), SPANC_TABLE, MASK 5\$ R1	039
				59		51	00	OOOAX	55: M	OVL	R1, CURRENT_PTR 75	
				28		10 69 05 69 06 89 04 28	91 13 91 13 91 12 90	0004B 0004D 00050 00052 00055 00057	C	EQL MPB EQL MPB NEQ OVB	(CURRENT_PTR), #43	040
				20		69	91	00050	CI	MPB	(CURRENT_PTR), #45	040
			24	AE		89	90	00055	6\$: M	OVB	(CURRENT_PTR)+, TEXT_BUF	041 040
			24	AE 5B		28	90	0005B 0005D	7\$: M	RB OVB	#43, TEXT_BUF	041
			1/				D0 12	00061	85: M	OVL NEQ	CURRENT_PTR, START_PTR	: 043
			14 25	AE AE		30	12 00 90	0006A	79	OVL OVB	#1 TOTAL INT DIGITS #48, TEXT BUF #1 TEMP_LENGTH 21\$	044
		S.A.		57		79	D6	00070	Bi	NCL RB	21\$	044
01	FE84	5A CF		57 69		5 A	2B	00064 00066 0006A 0006E 00070 00072 00076 0007D	SI	RB UBL3 PANC NEQ LRL OVL	START PTR, END TXT PTR, R10 R10, (CURRENT_PTR), SPANC_TABLE, #1	044
				59		51	04	0007F	10\$: M	LRL	10\$ R1 R1 CURRENT DIR	064
					18	AE	04	00084	C	LRL	R1 R1, CURRENT_PTR 24(SP) CURRENT_PTR	044
					18	09 AF	13	00089 0008B	Bi	NCL_	118 24(SP)	
		58		59	.0	001 001 001 001 001 001 001 001 001 001	C21200453631	00084 00087 00089 0008B 0008E 00092 00097 00099	S	UBL3	START PTR, CURRENT PTR, INT DIGITS	045
				58		5 A	00 15 28	00094	115: MG 125: BI	OVL	R10, INT_DIGITS	045 045
	24 A	E46		68		0D 58	28	00099	M	ovc3	INT DIGITS, (START_PTR), TEXT_BUF-	046
			14	56 AE 41	18	58 58 AE 69	CO CO E9	0009F 000A2 000A6 000AA	138 · R	DDL2	INT DIGITS, (START_PTR), TEXT_BUF- CTEMP_LENGTH] INT_DIGITS, TEMP_LENGTH INT_DIGITS, TOTAL_INT_DIGITS 24(SP), 21\$ (CURRENT_PTR), #46	046 046 046 047

BASSCVT_T_P	BASSCVT_T_P	- convert numeric	text to p	acked de 16-Sep- acked de 14-Sep-	1984 00:17:11 VAX-11 Bliss-32 V4.0-742 1984 11:54:49 [BASRTL.SRC]BASCVTTP.B32:1	Page 15 (3)
		04 AE	06 89 36 69	95 000B5 14\$:	BNEQ 14\$ MOVAB (CURRENT_PTR)+, DEC_PT_LOC BRB 21\$ TSTB (CURRENT_PTR)	0476 0475 0480
		20	05 69	13 000B7 91 000B9 12 000BC	BEQL 15\$ CMPB (CURRENT_PTR), #32 BNEQ 18\$ BLBS USER_FLAGS, 17\$ BRW 43\$ SPANC R10, (CURRENT_PTR), SPANC_TABLE, #2	
		03	0142	E8 000BE 15\$: 31 000C1 16\$: 28 000C4 17\$:	BLBS USER_FLAGS, 17\$	0482
02	FE36 CF	69	5A	2B 000C4 17\$: 13 000CB	SPANC R10, (CURRENT_PTR), SPANC_TABLE, #2 BEQL 19\$	0487
		09	14 69	11 000CD 91 000CF 18\$:	CMPB (CURRENT_PTR), #9	0485 0494
04	FE22 CF	E9 69	1C AE	12 000DF	BEQL 19\$ BRB 20\$ CMPB (CURRENT_PTR), #9 BNEQ 16\$ BLBC 28(SP), 16\$ SPANC R10, (CURRENT_PTR), SPANC_TABLE, #4 BNEQ 20\$ CLRL R1 MOVL R1, CURRENT_PTR BEQL 21\$ BRW 8\$ MOVL PACKED DSC, R8 MOVZWL (R8), R0	0496 0501
		59	51 51 03 FF76	D4 000E1 19\$: D0 000E3 20\$: 13 000E6	CLRL R1 MOVL R1, CURRENT_PTR BEQL 21\$	0499
		58 50 51	08 A8 08 A8	DO 000EB 21\$:	BRW 8\$ MOVL PACKED DSC, R8 MOVZWL (R8), R0 CVTBL 8(R8), R1 ADDL2 R1, R0	0526 0527
		50 50	14 AE	D1 000F9	CVTBL 8(R8), R1 ADDL2 R1, R0 CMPL TOTAL_INT_DIGITS, R0 BGTR 16\$ TSTL DEC_PT_LOC	0526
			04 AE	14 000FD D5 000FF 13 00102	TSTL DEC_PT_LOC BEQL 22\$	0535
			59 70	05 00104 13 00106 22\$:	BEQL 225 TSTL CURRENT_PTR BEQL 345 CMPL CURRENT_PTR, END_TXT_PTR BGEQ 355	0536
		57	59 7F	D1 00108 18 0010B	CMPL CURRENT_PTR, END_TXT_PTR BGEQ 35\$	0537
01	FDE4 CF	04 AE 57 69	01 58 5A 02 51	C1 0010D C3 00112 23\$: 2B 00116 12 0011D	SUBL3 START_PTR, END_TXT_PTR, R10 SPANC R10, TCURRENT_PTR); SPANC TABLE, #1	0541 0545 0546
		59	18 AE	04 00121 24\$: 04 00124 05 00127	CLRL 24(SP) TSTL CURRENT PTR	0545 0552
	10 45	50	18 AE 58 04	13 00129 06 0012B	BEQL 25% INCL 24(SP)	
	10 AE	59 10 AE	04	11 00133 D0 00135 25\$:	SUBL3 START_FTR, CURRENT_PTR, ACTUAL_SCALE BRB 26\$ MOVL R10, ACTUAL_SCALE	0553
	24 AE46		10 AE	13 00139 26\$:	BEOL 2/S	0554 0556 0559
					ADDI 2 ACTUAL SCALE TEMP LENGTH	•
		OC AE 3D 57	10 AE 10 AE 18 AE 59	CO 00142 CO 00146 E9 0014B 27\$:	ADDLE ACTUAL SCALE. IDIAL PRAC DIGITS	0561 0562 0565 0566
		3/	38 69	D1 0014F 18 00152 95 00154 13 00156 91 00158	BLBC 24(SP), 35\$ CMPL CURRENT_PTR, END_TXT_PTR BGEQ 35\$ TSTB (CURRENT_PTR)	:
		20	05 69	18 00152 95 00154 13 00156 91 00158	TSTB (CURRENT_PTR) BEQL 28\$ CMPB (CURRENT_PTR), #32	0576

S\$CVT_T_F		BASSCAL	1_P -	convert	numeric	text	to pa	cked	de 1	4-Sep-	1984 00:17 1984 11:54		Page 10
					03		6E	E8	0015B	285:	BNEQ BLBS BRW SPANC	USER_FLAGS, 308	057
	02	FD97	CF		69		00A3	2B	00163 0016A	28\$: 29\$: 30\$:	SPANC BEQL	R10, (CURRENT_PTR), SPANC_TABLE, #2	058
					09		14	91	0016C 0016E	315:	BRB CMPB	CURRENT_PTR), #9	058
	04	FD83	CF		E9 69	10	69 ED AE 5A	E9 2B	00171 00173 00177 0017E		BEQL BRB CMPB BNEQ BLBC SPANC BNEQ CLRL MOVL BEQL	29\$ 28(SP), 29\$ R10, (CURRENT_PTR), SPANC_TABLE, #4 33\$ R1	059 059
					59		51	00	00180 00182	32\$: 33\$: 34\$:	CLRL	R1 CURRENT_PTR	059
					5B		59	00	00185 00187 0018A	545:	WOAL	CURRENT_PTR, START_PTR	0599 0599 0599 0599
					57 57 57	08 00	86 A8 AE 57	98 CO CE	0018C 00190 00194	35\$:	CVTBL ADDL2 MNEGL	23\$ 8(R8), R7 TOTAL FRAC_DIGITS, R7 R7, DIFF 36\$ DIFF, TEMP LENGTH, R0 TEMP LENGTH TEXT BUE	
	50		50 30	24	56 AE	24	0E 57 56	20	00197 00199 00190		MOVL BRB CVTBL ADDL2 MNEGL BLEQ ADDL3 MOVC5	TEMP_LENGTH, TEXT_BUT, #40, NO, TEXT_BUT	062 063
							11	11	001A3 001A5 001A7	36\$:	BRB BGEQ	37\$ 38\$	063 063 065
			50	0.0	51 51	14 00 24	AE AE AE 40	DO (	001A9		BRB BGEQ MOVL ADDL 3 MOVZBL	TOTAL INT DIGITS, R1 TOTAL FRAC DIGITS, R1, INDEX	:
				08	AE 56 50 1F	FF FF	57 A6 50	CO 9E	001B2 001B8 001BB 001BF	37\$: 38\$:	ADDL2 MOVAB CMPL	37\$ 38\$ TOTAL_INT_DIGITS, R1 TOTAL_FRAC_DIGITS, R1, INDEX TEXT_BUF[INDEX], ROUND_DIGIT DIFF, TEMP_LENGTH -1(R6), R0 R0, #31	065 065 066
					50 56		03 1F 50	DO 0	001C2 001C4	70€.	CMPL BLEQ MOVL	39\$ #31, R0	
04	88		68 20	24	AE 6E 35	08	56 03 AE 27	DI	כטוטט	39\$:	MOVL CVTSP BBS CMPL	RO, #31 39\$ #31, RO RO, TEMP LENGTH TEMP LENGTH, TEXT BUF, (R8), @4(R8) #3, USER FLAGS, 42\$ ROUND_DIGIT, #53 42\$ TEXT BUE #45	067 067 067
					20	24	AE 06	91	001D9 001DB		BLSS CMPB BNEQ MOVL	TEXT_BUF, #45	068
				20	AE		10	DO (	001DF 001E1 001E5		MOVL BRB	#29. ONE	068
				20	AE 55 57 56	20 04	1C AE A8 68 01 00 50	9E 9D 3C		40\$: 41\$:	MOVAB MOVA MOVZWL	#28, ONE ONE, R5 4(R8), R7 (R8), R6 #1, R4 LIB\$\$ADDP_R7	068 069
					56	000000	01	D0	001F6 001F9		MOVL JSB BLBC MOVL	#1, R4 LIB\$\$ADDP_R7	
					50		01	E9 00	001FF 00202	42\$:	MOAF	RO. 43\$ #1, RO	069
							50	04	00202 00205 00206 00208	438:	RET CLRL RET	RO	0699

BASSCVT\_T\_P - convert numeric text to packed de 16-Sep-1984 00:17:11 BASSCVT\_T\_P - convert numeric text to packed de 14-Sep-1984 11:54:49 BAS\$CVT\_T\_P VAX-11 Bliss-32 V4.0-742 [BASRTL.SRC]BASCVTTP.B32:1 Page 17 (3) 608 609 610 611 END ! End of module BAS\$CVT\_T\_P O ELUDOM PSECT SUMMARY Name Bytes Attributes 777 NOVEC, NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC, ALIGN(2) BAS\$CODE Library Statistics ----- Symbols -----Pages Processing File Total Loaded Percent Mapped Time \_\$255\$DUA28:[SYSLIB]STARLET.L32:1 9776 581 00:01.1 COMMAND QUALIFIERS BLISS/CHECK=(FIELD, INITIAL, OPTIMIZE)/NOTRACE/LIS=LIS\$:BASCVTTP/OBJ=OBJ\$:BASCVTTP MSRC\$:BASCVTTP/UPDATE=(ENH\$:BASCVTTP) 521 code + 256 data bytes 00:15.2 00:35.7 Size: Run Time: Elapsed Time: Lines/CPU Min: : Lines/CPU Min: 2780 : Lexemes/CPU-Min: 12506 : Memory Used: 203 pages : Compilation Complete

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